

CLAIMS

1. An electrode for a cell having a power generating element in which one or more positive electrodes and one or more negative electrodes are alternately closely arranged via electrolyte retaining layers, wherein a groove is formed in a face which is a surface of at least one of said electrodes, said face being opposed to the other electrode via an electrolyte retaining layer, at least one end of said groove reaching an end portion of said electrode.
2. An electrode according to claim 1, wherein said electrolyte retaining layers are separators.
3. An electrode according to claim 1, wherein said groove has a portion of a depth of 10  $\mu\text{m}$  or more.
4. An electrode according to claim 1, wherein a sectional area of said formed groove is not smaller than 0.2% and not larger than 10% of a total sectional area of a mixture layer in which said groove is formed.
5. An electrode according to claim 1, wherein said formed groove is linear.
6. An electrode according to claim 1, wherein said formed groove in said electrode is configured by at least two groove groups of a groove group consisting of a series of grooves which are directed in one direction in an electrode face, and a groove group consisting of a series of grooves which are directed in a direction different from the above direction.
7. A cell having a power generating element in which one or more positive electrodes and one or more negative electrodes

are alternately closely arranged via electrolyte retaining layers, said cell comprising said electrodes according to any one of claims 1 to 6, wherein a groove is formed in a face which is a surface of at least one of said electrodes, said face being opposed to the other electrode via an electrolyte retaining layer, at least one end of said groove reaching an end portion of said electrode.

8. A cell according to claim 7, wherein said electrolyte retaining layers are separators.

9. A cell according to claim 7, wherein said groove has a portion of a depth of 10  $\mu\text{m}$  or more.

10. A cell according to claim 7, wherein a sectional area of said formed groove is not smaller than 0.2% and not larger than 10% of a total sectional area of a mixture layer in which said groove is formed.

11. A cell according to claim 7, wherein said formed groove is linear.

12. A cell according to claim 7, wherein said formed groove in said electrode is configured by at least two groove groups of a groove group consisting of a series of grooves which are directed in one direction in an electrode face, and a groove group consisting of a series of grooves which are directed in a direction different from the above direction.

13. A cell which is configured by a positive electrode, a negative electrode, and an electrolyte retaining layer, wherein at least one of interfaces each formed by two of said positive electrode, said negative electrode, and said electro-

lyte retaining layer is bonded by an adhesive layer containing fine particles, and a groove is formed in a face which is a surface of at least one of said electrodes, said face being opposed to the other electrode via said electrolyte retaining layer, at least one end of said groove reaching an end portion of said electrode.

14. A cell according to claim 13, wherein said electrolyte retaining layers are separators.

15. A cell according to claim 13, wherein said groove has a portion of a depth of 10  $\mu\text{m}$  or more.

16. A cell according to claim 13, wherein a sectional area of said formed groove is not smaller than 0.2% and not larger than 10% of a total sectional area of a mixture layer in which said groove is formed.

17. A cell according to claim 13, wherein said formed groove is linear.

18. A cell according to claim 13, wherein said formed groove in said electrode is configured by at least two groove groups of a groove group consisting of a series of grooves which are directed in one direction in an electrode face, and a groove group consisting of a series of grooves which are directed in a direction different from the above direction.

19. A cell according to claim 7, wherein said positive and negative electrodes are fixed by said electrolyte retaining layer interposed between said electrodes.

20. A cell according to claim 7, wherein said power generating element is housed in a cell container in which a laminate

sheet of a metal and a resin is a component.

21. A cell according to claim 13, wherein said power generating element is housed in a cell container in which a laminate sheet of a metal and a resin is a component.

22. An electrode which is produced by a grooving method and a technique of said method in which a rotating mechanism wherein a projection is formed on a curved surface of a roll is provided, an electrode plate that is moved so as to be simultaneously contacted with said roll is disposed, and, when said groove is contacted with said electrode plate, a groove is formed, wherein a work is conducted by pressing said electrode plate by said roll.

23. An electrode according to claim 22, wherein said electrode is produced by a grooving method and a technique of said method in which a rotating mechanism wherein a projection is formed on a curved surface of a roll is provided, an electrode plate that is moved so as to be simultaneously contacted with said roll is disposed, and, when said groove is contacted with said electrode plate, a groove is formed, wherein a grooving work is conducted by pressing said electrode plate by said roll, and also by heating said electrode plate by a heating mechanism.

24. An electrode according to claim 22, wherein said electrode is produced by a grooving method and a technique of said method in which a rotating mechanism wherein a projection is formed on a curved surface of a roll is provided, an electrode plate that is moved so as to be simultaneously contacted with

said roll is disposed, and, when said groove is contacted with said electrode plate, a groove is formed, wherein, when said electrode plate is pressed by said roll, a depth of said projection and a pressing force are adjusted so that a portion of said roll surface other than said projection is contacted with said electrode plate.